Prestige 660W/HW Series

ADSL 2/2+ Gateway with 802.11g Wireless

Compact Guide
Version 3.40
May 2004

ZyXEL
Unleash Networking Power

Table of Contents

1 Introducing the Prestige

The Prestige 660W/HW ADSL 2/2+ Gateway with 802.11g Wireless is the ideal all-in-one device for small networks connecting to the Internet via ADSL. Key features of the Prestige include NAT, 802.1x wireless LAN security, WPA (Wi-Fi Protected Access) and Firewall. See your *User's Guide* for more details on all Prestige features.

You should have an Internet account already set up and have been given most of the following information.

INTERNET ACCOUNT INFORMATION		
Your device's WAN IP Address (if given): _____		
DNS Server IP Address (if given): Primary _____,		
Secondary _____		
Virtual Path Identifier (**VPI**): _____		
Virtual Channel Identifier (**VCI**): _____		
Multiplexing (VC-based or LLC-based):	☐ **VC**	☐ **LLC**
Encapsulation: (choose one below)		
❍ **RFC 1483**		
❍ **ENET ENCAP**	Ethernet Encapsulation Gateway IP Address: _____	
❍ **PPPoA**	User Name: _____	Password: _____
❍ **PPPoE**	Service Name: _____	
	User Name: _____	Password: _____

Certifications

1. Go to www.zyxel.com

2. Select your product from the drop-down list box on the ZyXEL home page to go to that product's page.

3. Select the certification you wish to view from this page.
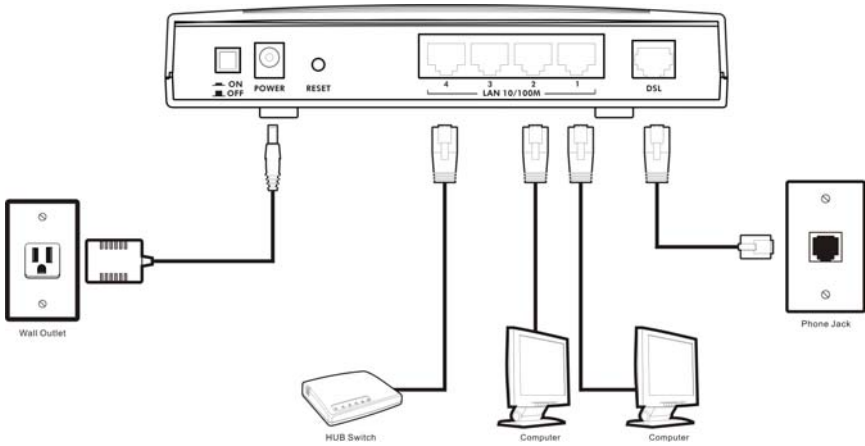
2 Hardware

2.1 Rear Panel Connections

Figure 1 P660HW Hardware Connections

Table 1 Prestige Rear Panel Description

LABEL	DESCRIPTION
DSL	Connect to a telephone jack using the included phone wire.
LAN 1 to LAN 4	Connect to a computer/external hub using an Ethernet cable.
POWER	Connect to a power source using the power adaptor for your region (see your *User's Guide*).
After you've made the connections, connect the power adaptor to a power supply and push in the power button to turn on the Prestige. The **PWR/SYS** LED blinks while performing system testing and then turns steady on if the testing is successful. A **LAN** LED turns on if a LAN port is properly connected.	

Table 1 Prestige Rear Panel Description

LABEL	DESCRIPTION
RESET	You only need to use this button if you've forgotten the Prestige's password. It returns the Prestige to the factory defaults (password is 1234, LAN IP address 192.168.1.1 etc.; see your *User's Guide* for details).

2.2 The Front Panel LEDs

Figure 2 P660HW Front Panel

Refer to the following table for more detailed LED descriptions.

Table 2 P660HW Front Panel LED Description

LED	COLOR	STATUS	DESCRIPTION
PWR/SYS	Green	On	The Prestige is receiving power and functioning properly.
		Blinking	The Prestige is rebooting.
	Red	On	Power to the Prestige is too low.

Table 2 P660HW Front Panel LED Description

LED	COLOR	STATUS	DESCRIPTION
		Off	The system is not ready or has malfunctioned.
LAN 1 to LAN 4	Green	On	The Prestige has a successful 10Mb Ethernet connection.
		Blinking	The Prestige is sending/receiving data.
	Amber	On	The Prestige has a successful 100Mb Ethernet connection.
		Blinking	The Prestige is sending/receiving data.
		Off	The LAN is not connected.
WLAN	Green	On	The Prestige is ready, but is not sending/receiving data through the wireless LAN.
		Blinking	The Prestige is sending/receiving data through the wireless LAN.
		Off	The wireless LAN is not ready or has failed.
DSL/PPP	Green	Fast Blinking	The Prestige is sending/receiving non-PPP data.
		Slow Blinking	The Prestige is initializing the DSL line.
		On	The system is ready, but is not sending/receiving non-PPP data.
	Amber	On	The connection to the PPPoE server is up.
		Blinking	The Prestige is sending/receiving PPP data.
		Off	The DSL link is down.

Figure 3 P660W Front Panel

Refer to the following table for more detailed LED descriptions.

Table 3 P660W Front Panel LED Description

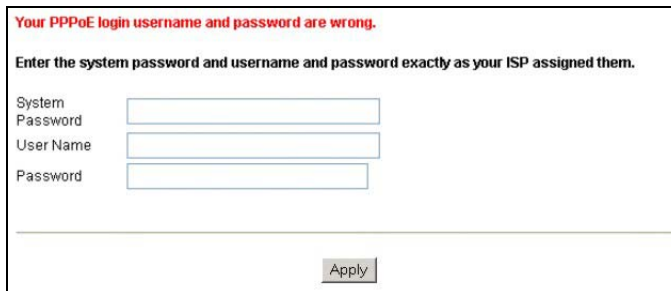| LED	COLOR	STATUS	DESCRIPTION
PWR	Green	On	The Prestige is receiving power.
		Off	The Prestige is not receiving power.
SYS	Green	On	The Prestige is functioning properly.
		Blinking	The Prestige is rebooting.
	Red	On	Power to the Prestige is too low.
		Off	The system is not ready or has malfunctioned.
DSL	Green	On	The Prestige is linked successfully to a DSLAM.
		Blinking	The Prestige is initializing the DSL line.
		Off	The DSL link is down.

Table 3 P660W Front Panel LED Description

LED	COLOR	STATUS	DESCRIPTION
PPP/ACT	Green	Blinking	The Prestige is sending/receiving non-PPP data.
	Amber	On	The Prestige has a PPP (PPPoA or PPPoE) connection.
		Blinking	The Prestige is sending/receiving PPPoA or PPPoE traffic.
		Off	The system is ready, but is not sending/receiving data.
WLAN	Green	On	The Prestige is ready, but is not sending/receiving data through the wireless LAN.
		Blinking	The Prestige is sending/receiving data through the wireless LAN.
		Off	The wireless LAN is not ready or has failed.
10M/100M	Green	On	The Prestige has a successful 10Mb Ethernet connection.
		Blinking	The Prestige is sending/receiving data.
	Amber	On	The Prestige has a successful 100Mb Ethernet connection.
		Blinking	The Prestige is sending/receiving data.
		Off	The LAN is not connected.

3 Internet Access With Zero Configuration

With the Prestige's Zero Configuration, you can access the Internet easily. Simply connect a computer to the Prestige and access the Internet without changing the network settings (such as the IP address and subnet mask) of the computer.

Step 1. Make the hardware connections and turn on the Prestige (refer to the *Rear Panel Connections* section).

Step 2. Wait until the **DSL/ACT** LED turns steady on. Launch your web browser and navigate to a web site (for example, www.zyxel.com). The Prestige automatically detects and configures your Internet connection. This may take about two minutes.

Step 3. If you have a PPPoE or PPPoA connection type, a screen displays prompting you to enter your Internet account username and/or password. Enter the username, password and/or service name exactly as provided by your ISP. Click **Apply**.

Step 4. You should be able to access the Internet. Otherwise, follow the on-screen instructions to solve the problem(s). Refer to the rest of this guide or the *User's Guide* to manually configure your Prestige for Internet connection and other advanced settings.

> **If an Internet access parameter changes, either change it manually or restart the device to have the Prestige automatically reconfigure your Internet connection.**

4 Setting Up Your Computer's IP Address

> **Skip this section if your computer is already set up to accept a dynamic IP address. This is the default for most new computers.**

The Prestige is already set up to assign your computer an IP address. Use this section to set up your computer to receive an IP address or assign it a static IP address in the 192.168.1.2 to 192.168.1.254 range with a subnet mask of 255.255.255.0. This is necessary to ensure that your computer can communicate with your Prestige.

Your computer must have an Ethernet card and TCP/IP installed. TCP/IP should already be installed on computers using Windows NT/2000/XP, Macintosh OS 7 and later operating systems.

4.1 Windows 95/98/Me

1. Click **Start**, **Settings**, **Control Panel** and double-click the **Network** icon to open the **Network** window.

2. The **Network** window **Configuration** tab displays a list of installed components. You need a network adapter, the TCP/IP protocol and Client for Microsoft Networks.
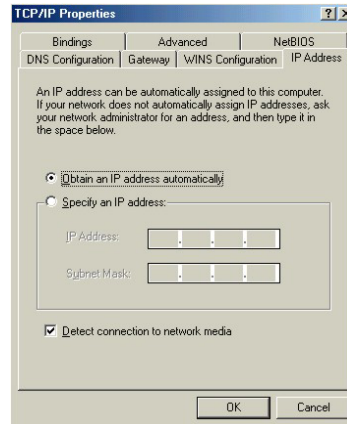
3.   In the **Network** window **Configuration** tab, select your network adapter's TCP/IP entry and click **Properties**.
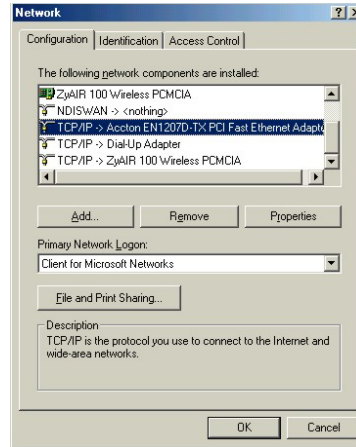
4.   Click the **IP Address** tab.

   -If your IP address is dynamic, select **Obtain an IP address automatically**.

     -If you have a static IP address, select **Specify an IP address** and type your information into the **IP Address** and **Subnet Mask** fields.

5. Click the **DNS Configuration** tab.

    -If you do not know your DNS information, select **Disable DNS**.
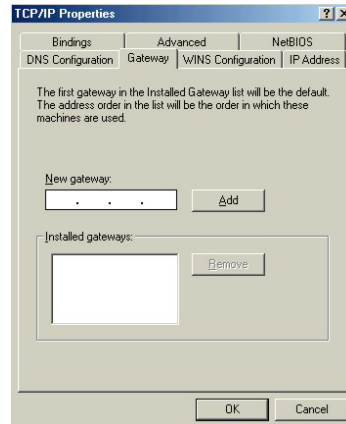
    -If you know your DNS information, select **Enable DNS** and type the information in the fields below (you may not need to fill them all in).
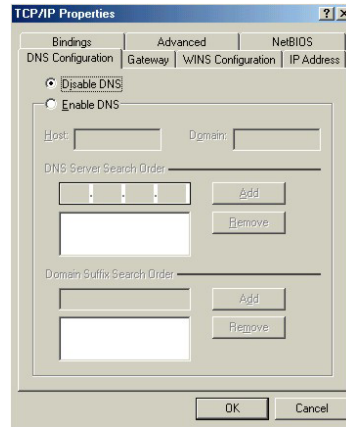
6. Click the **Gateway** tab.

    -If you do not know your gateway's IP address, remove previously installed gateways.

    -If you have a gateway IP address, type it in the **New gateway field** and click **Add**.

7. Click **OK** to save and close the **TCP/IP Properties** window.

8. Click **OK** to close the **Network** window. Insert the Windows CD if prompted.

9. Turn on your Prestige and restart your computer when prompted.

Verifying Your Computer's IP Address

1. Click **Start** and then **Run**.

2. In the **Run** window, type "winipcfg" and then click **OK** to open the **IP Configuration** window.

3. Select your network adapter. You should see your computer's IP address, subnet mask and default gateway.

4.2 Windows 2000/NT/XP

1. In Windows XP, click **start**, **Control Panel**. In Windows 2000/NT, click **Start**, **Settings**, **Control Panel**.

2. In Windows XP, click **Network Connections**.

    In Windows 2000/NT, click **Network and Dial-up Connections**.

3. Right-click **Local Area Connection** and then click **Properties**.

4. Select **Internet Protocol (TCP/IP)** (under the **General** tab in Win XP) and click **Properties**.

5. The **Internet Protocol TCP/IP Properties** screen opens (the **General tab** in Windows XP).

    - To have your computer assigned a dynamic IP address, click **Obtain an IP address automatically**.

    If you know your DNS sever IP address(es), type them in the **Preferred DNS server** and/or **Alternate DNS server** fields.

    -To configure a static IP address, click **Use the following IP Address** and fill in the **IP address** (choose one from192.168.1.2 to 192.168.1.254), **Subnet mask** (255.255.255.0), and **Default gateway** (192.168.1.1) fields.

14
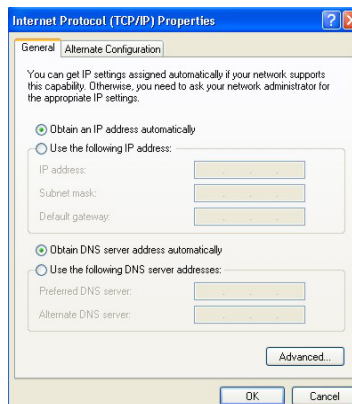
Then enter your DNS server IP address(es) in the **Preferred DNS server** and/or **Alternate DNS server** fields.

If you have more than two DNS servers, click **Advanced**, the **DNS** tab and then configure them using **Add**.

6. Click **Advanced**. Remove any previously installed gateways in the **IP Setting**s tab and click **OK** to go back to the **Internet Protocol TCP/IP Properties** screen.
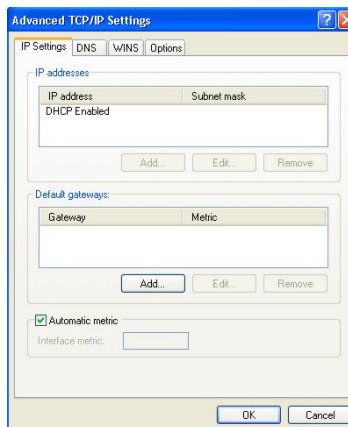
7. Click **OK** to close the **Internet Protocol (TCP/IP) Properties** window.

8. Click **OK** to close the **Local Area Connection Properties** window.

4.3 Checking/Updating Your Computer's IP Address

1. In the computer, click **Start**, (**All) Programs**, **Accessories** and then **Command Prompt**.

2. In the **Command Prompt** window, type "ipconfig" and then press **ENTER** to verify that your computer's IP address is in the correct range (192.168.1.2 to 192.168.1.254) with subnet mask 255.255.255.0. This is necessary in order to communicate with the Prestige.

Refer to your *User's Guide* for detailed IP address configuration for other Windows and Macintosh computer operating systems.

4.4 Testing the Connection to the Prestige

1. Click **Start**, (**All**) **Programs**, **Accessories** and then **Command Prompt**.

2. In the **Command Prompt** window, type "ping" followed by a space and the IP address of the Prestige (192.168.1.1 is the default).

3. Press **ENTER** and the following screen displays.

```
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time=10ms TTL=254
Reply from 192.168.1.1: bytes=32 time<10ms TTL=254
Reply from 192.168.1.1: bytes=32 time<10ms TTL=254
Reply from 192.168.1.1: bytes=32 time<10ms TTL=254

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  10ms, Average =  2ms
```

Your computer can now communicate with the Prestige using the **LAN** port.

5 Configuring Your Prestige

> **This *Compact Guide shows* you how to use the web configurator only. See your *User's Guide* for background information on all Prestige features and SMT (System Management Terminal) configuration.**

5.1 Accessing Your Prestige Via Web Configurator

Step 1.   Launch your web browser. Enter "192.168.1.1" as the web site address.
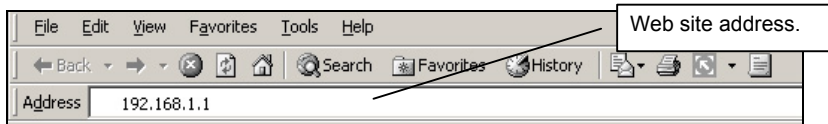

Figure 4 Entering Prestige LAN IP Address in Internet Explorer

Step 2.   An **Enter Network Password** window displays. Enter the user name ("admin" is the default), password ("1234" is the default) and click **OK**.

Figure 5 Web Configurator: Password Screen

Step 3.   You should now see the web configurator **Site Map** screen.

> ➢ Click **Wizard Setup** to begin a series of screens to configure your Prestige for the first time.

> ➢ Click a link under **Advanced Setup** to configure advanced Prestige features.

17

> ➢ Click a link under **Maintenance** to see Prestige performance statistics, upload firmware and back up, restore or upload a configuration file.

> ➢ Click **Logout** in the navigation panel when you have finished a Prestige management session.
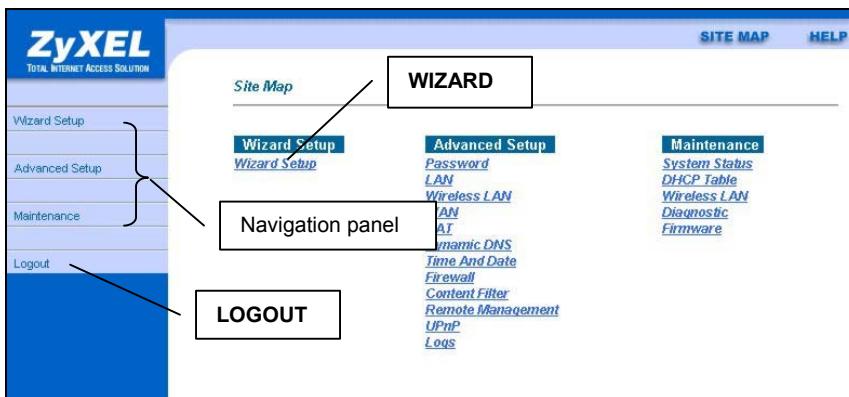

Figure 6 Web Configurator: Site Map Screen

> **The Prestige automatically times out after five minutes of inactivity. Simply log back into the Prestige if this happens to you.**

5.2 Common Screen Command Buttons

The following table shows common command buttons found on many web configurator screens.

Back	Click **Back** to return to the previous screen.
Apply	Click **Apply** to save your changes back to the Prestige.
Reset/Cancel	Click **Reset** or **Cancel** to begin configuring this screen afresh.

5.3 Internet Access Using the Wizard

Use the Wizard Setup screens to configure your system for Internet access settings and fill in the fields with the information in the *Internet Account Information* table. Your ISP may have already configured some of the fields in the wizard screens for you.

Step 1.   In the **Site Map** screen click **Wizard Setup** to display the first wizard screen.

From the **Mode** drop-down list box, select **Routing** (default) if your ISP allows multiple computers to share an Internet account. Otherwise select **Bridge**.

Select the encapsulation type your ISP uses from the **Encapsulation** drop-down list box. Choices vary depending on what you select in the **Mode** field.

Select the multiplexing method used by your ISP from the **Multiplex** drop-down list box.

Enter the correct Virtual Path Identifier (VPI) and Virtual Channel Identifier (VCI) numbers supplied by your ISP in the **VPI** and **VCI** fields. These fields may already be configured.

Figure 7 Wizard Screen 1

Click **Next**.

Step 2.   The second wizard screen varies depending on what mode and encapsulation type you use. All screens shown are with routing mode. Configure the fields and click **Next** to continue.

Wizard Setup - ISP Parameters for Internet Access

Service Name

User Name

Password

IP Address

◉ Obtain an IP Address Automtically

○ Static IP Address

0.0.0.0

Connection

◉ Connect on Demand: Max Idle Timeout 0   Secs

○ Nailed-Up Connection

Network Address Translation

SUA Only

Back   Next

If your ISP provides the name of your PPPoE service provider, enter it in the **Service Name** field.

Enter the user name and password *exactly* as your ISP assigned them.

Select **Obtain an IP Address Automatically** if you have a dynamic IP address; otherwise select **Static IP Address** and type your ISP assigned IP address in the text box below.

Select **Connect on Demand** when you don't want the connection up all the time and specify an idle time-out period (in seconds) in the **Max. Idle Timeout** field.

Figure 8 Internet Connection with PPPoE

Select **Nailed-Up Connection** when you want your connection up all the time. The Prestige will try to bring up the connection automatically if it is disconnected

From the **Network Address Translation** drop-down list box, select **SUA Only**, **Full Feature** or **None**. Refer to the *Network Address Translation* section for more information.

Wizard Setup - ISP Parameters for Internet Access

IP Address   0.0.0.0

Network Address Translation

SUA Only

Back   Next

Enter the IP address given by your ISP in the **IP Address** field.

> **The** IP Address **field is not available for bridge mode.**

Refer to *Figure 8* for description of the **Network Address Translation** field.

Figure 9 Internet Connection with RFC 1483

In the **ENET ENCAP Gateway** field, enter the gateway IP address given by your ISP.

Refer to *Figure 8* for other field descriptions.

Figure 10 Internet Connection with ENET ENCAP

Refer to *Figure 8* for field descriptions.

> **The** IP Address **and** Network Address Translation **fields are** *not* **available for bridge mode.**

Figure 11 Internet Connection with PPPoA

Step 3. Verify the settings in the screen shown next. To change the LAN information on the Prestige, click **Change LAN Configurations**. Otherwise click **Save Settings** to save the configuration and skip the following step.

Wizard Setup - ISP Parameters for Internet Access

WAN Information:
  Mode: **Routing**
  Encapsulation: **PPPoE**
  Mutiplexing: **LLC**
  VPI/VCI: **8/35**
  Service Name:
  User Name: **user@isp.ch**
  Password: ********
  IP Address: **Obtain an IP Address Automatically**
  NAT: **SUA Only**
  Connect on Demand: **Max Idle Timeout 1500 Secs.**

LAN Information:
  IP Address: **192.168.1.1**
  IP Mask: **255.255.255.0**
  DHCP: **ON**
  Client IP Pool Stating Address: **192.168.1.33**
  Size of Client IP Pool: **32**

  [Change LAN Configuration]

  [Save Settings]

Figure 12 Wizard Screen 3

Step 5. If you want to change your Prestige LAN settings, click Change LAN Configuration to display the screen as shown next.

Enter the IP address of your Prestige in dotted decimal notation in the **LAN IP Address** field. For example, 192.168.1.1 (factory default).

> **If you change the Prestige's LAN IP address, you must use the *new* IP address if you want to access the web configurator again.**

Enter a subnet mask in dotted decimal notation in the **LAN Subnet Mask** field.

Figure 13 Wizard: LAN Configuration

From the **DHCP Server** drop-down list box, select **On** to allow your Prestige to assign IP addresses, an IP default gateway and DNS servers to computer systems that support the DHCP client. Select **Off** to disable DHCP server.

When DHCP server is used, set the following items:

Specify the first of the contiguous addresses in the IP address pool in the **Client IP Pool Starting Address** field.

Specify the size or count of the IP address pool in the **Size of Client IP Pool** field.

Enter the IP address(es) of the DNS server(s) in the **Primary DNS Server** and/or **Secondary DNS Server** fields.

Step 6. The Prestige automatically tests the connection to the computer(s) connected to the LAN ports. To test the connection from the Prestige to the ISP, click **Start Diagnose**. Otherwise click **Return to Main Menu** to go back to the **Site Map** screen.
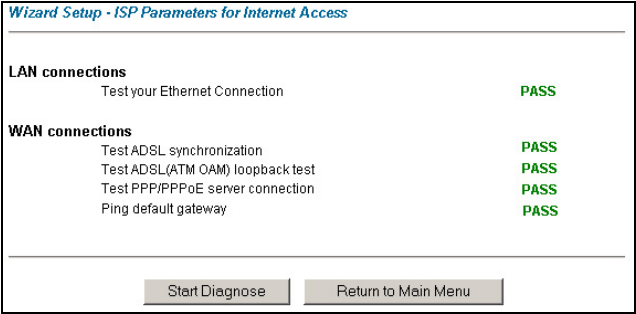
Figure 14 Wizard Screen 4

5.4 Test Your Internet Connection

Launch your web browser and navigate to www.zyxel.com. Internet access is just the beginning. Refer to the *User's Guide* for more detailed information on the complete range of Prestige features. If you cannot access the Internet, open the web configurator again to confirm that the Internet settings you configured in the Wizard Setup are correct.

6 Advanced Configuration

This section shows how to configure some of the advanced features of the Prestige.

6.1 Wireless LAN Setup

A wireless LAN (WLAN) provides a flexible data communications system that you can use to access various services (the Internet, email, printer services, etc.) on the wired network without additional expensive network cabling infrastructure. In effect, a wireless LAN environment provides you the freedom to stay connected to the wired network while moving in the coverage area.

> **The WLAN screens are only available when a WLAN card is installed.**

To configure wireless settings, click **Advanced Setup**, **Wireless LAN** and then click **Wireless**.

Figure 15 Wireless LAN: Wireless

The following table describes the fields in this screen.

Table 4 Wireless LAN: Wireless

LABEL	DESCRIPTION
Enable Wireless LAN	The wireless LAN is turned off by default, before you enable the wireless LAN you should configure some security by setting MAC filters and/or 802.1x security; otherwise your wireless LAN will be vulnerable upon enabling it. Select the check box to enable the wireless LAN.
ESSID	(Extended Service Set IDentity) The ESSID is a unique name to identify the Prestige in the wireless LAN. Wireless clients associating to an Access Point (the Prestige) must have the same ESSID. Enter a descriptive name (up to 32 printable 7-bit ASCII characters).
Hide ESSID	Select **Yes** to hide the ESSID so a wireless client cannot obtain the ESSID through passive scanning. Select **No** to make the ESSID visible so a wireless client can obtain the ESSID through passive scanning.
Channel ID	The radio frequency used by IEEE 802.11b wireless devices is called a channel. Select a channel from the drop-down list box.
RTS/CTS Threshold	Select this option to enable the RTS (Request To Send)/CTS (Clear To Send) threshold to minimize collisions. Enter a value between 0 and 2432. The default is 2432. Request To Send is the threshold (number of bytes) for enabling the RTS/CTS handshake. Data with its frame size larger than this value will perform the RTS/CTS handshake. Setting this attribute to be larger than the maximum MSDU (MAC Service Data Unit) size turns off the RTS/CTS handshake.
Fragmentation Threshold	Fragmentation Threshold is the maximum data fragment size that can be sent.
WEP Encryption	WEP (Wired Equivalent Privacy) encrypts data frames before transmitting them over the wireless network. Select **Disable** allows all wireless computers to communicate with the access points without any data encryption. Select **64-bit WEP**, **128-bit WEP** or **256-bit WEP** and then configure the keys in the fields provided to activate data encryption.

Table 4 Wireless LAN: Wireless

LABEL	DESCRIPTION
Key 1 to Key 4	The WEP keys are used to encrypt data. Both the Prestige and the wireless clients must use the same WEP key for data transmission. If you chose **64-bit WEP**, then enter any 5 ASCII characters or 10 hexadecimal characters ("0-9", "A-F"). If you chose **128-bit WEP**, then enter 13 ASCII characters or 26 hexadecimal characters ("0-9", "A-F"). If you chose **256-bit WEP**, then enter 29 ASCII characters or 58 hexadecimal characters ("0-9", "A-F"). You must configure all four keys, but only one key can be activated at any one time. The default key is key 1.

The wireless clients and Prestige must use the same ESSID, channel ID and WEP encryption key (if WEP is enabled) for wireless communication.

6.2 Wireless LAN Security Setup

For added security, set your Prestige to check the MAC address of the wireless client device against a list of allowed or denied MAC addresses.

To set up the MAC address list for wireless LAN, click **Advanced Setup** in the navigation panel, **Wireless LAN** and then click the **MAC Filter** link.

Figure 16 Wireless LAN: MAC Address Filter

The following table describes the fields in this screen.

Table 5 Wireless LAN: MAC Address Filter

LABEL	DESCRIPTION
Active	Select **Yes** from the drop down list box to enable MAC address filtering.
Action	Define the filter action for the list of MAC addresses in the **MAC Address** table.
	Select **Deny Association** to block access to the router, MAC addresses not listed will be allowed to access the router
	Select **Allow Association** to permit access to the router, MAC addresses

	not listed will be denied access to the router.
MAC Address	Enter the MAC addresses (in XX:XX:XX:XX:XX:XX format) of the wireless station that are allowed or denied access to the Prestige in these address fields.

6.3 802.1x and WPA Overview

Wi-Fi Protected Access (WPA) is a subset of the IEEE 802.11i security specification draft. Key differences between WPA and WEP are user authentication and improved data encryption. WPA applies IEEE 802.1x and Extensible Authentication Protocol (EAP) to authenticate wireless clients using an external RADIUS database. You can't use the Prestige's local user database for WPA authentication purposes since the local user database uses MD5 EAP which cannot be used to generate keys.

WPA improves data encryption by using Temporal Key Integrity Protocol (TKIP), Message Integrity Check (MIC) and IEEE 802.1x. Temporal Key Integrity Protocol (TKIP) uses 128-bit keys that are dynamically generated and distributed by the authentication server. It includes a per-packet key mixing function, a Message Integrity Check (MIC) named Michael, an extended initialization vector (IV) with sequencing rules, and a re-keying mechanism.

To change your Prestige's authentication settings, click the **Wireless LAN** link under **Advanced Setup** and then the **802.1x/WPA** tab. The screen varies by the wireless port control and key management protocol you select.

6.4 Network Address Translation Overview

NAT (Network Address Translation - NAT, RFC 1631) is the translation of the IP address of a host in a packet. For example, the source address of an outgoing packet, used within one network is changed to a different IP address known within another network.

If you have a single public IP address then select **SUA Only** in the **NAT-Mode** screen (see *Figure 17*). If you have multiple public IP addresses then you may use full feature mapping types (see the *User's Guide* for more details).

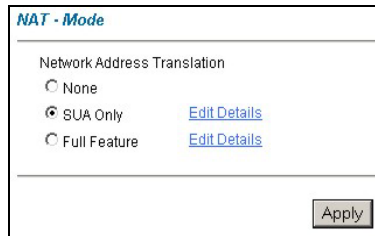NAT supports five types of IP/port mapping. They are:

1. **One-to-One**: One-to-one mode maps one local IP address to one global IP address. Note that port numbers do not change for One-to-one NAT mapping type.

2. **Many-to-One**: Many-to-One mode maps multiple local IP addresses to one global IP address.

3. **Many-to-Many Overload**: Many-to-Many Overload mode maps multiple local IP addresses to shared global IP addresses.

4. **Many-to-Many No Overload**: Many-to-Many No Overload mode maps each local IP address to unique global IP addresses.

5. **Server**: This type allows you to specify inside servers of different services behind the NAT to be accessible to the outside world.

6.5 Configuring SUA Server

An SUA server set is a list of inside (behind NAT on the LAN) servers, for example, web or FTP, that you can make visible to the outside world even though SUA makes your whole inside network appear as a single computer to the outside world.

Step 7.   From the main screen click **Advanced Setup** and then **NAT** to open the **NAT-Mode** screen. Select **SUA Only**.

Figure 17 NAT: Mode

Step 8.   Click Edit Details.

Figure 18 SUA/NAT Server

The following table describes the labels in this screen.

Table 6 SUA/NAT Server

LABEL	DESCRIPTION
Start Port No.	Type a port number in this field. To forward only one port, type the port number again in the **End Port** field. To forward a series of ports, type the start port number here and the end port number in the **End Port** field.
End Port No.	Type a port number in this field. To forward only one port, type the port number in the **Start Port** field above and then type it again in this field. To forward a series of ports, type the last port number in a series that begins with the port number in the **Start Port** field above.
IP Address	Enter the inside IP address of the server here.

6.6 Firewall Overview

The Prestige firewall is a stateful inspection firewall and is designed to protect against Denial of Service attacks when activated. The Prestige's purpose is to allow a private Local Area Network (LAN) to be securely connected to the Internet. The Prestige can be used to prevent theft, destruction and modification of data, as well as log events, which may be important to the security of your network. The Prestige also has packet-filtering capabilities.

When activated, the firewall allows all traffic to the Internet that originates from the LAN, and blocks all traffic to the LAN that originates from the Internet. In other words the Prestige will:

Allow all sessions originating from the LAN to the WAN
Deny all sessions originating from the WAN to the LAN

LAN-to-WAN rules are local network to Internet firewall rules. The default is to forward all traffic from your local network to the Internet.

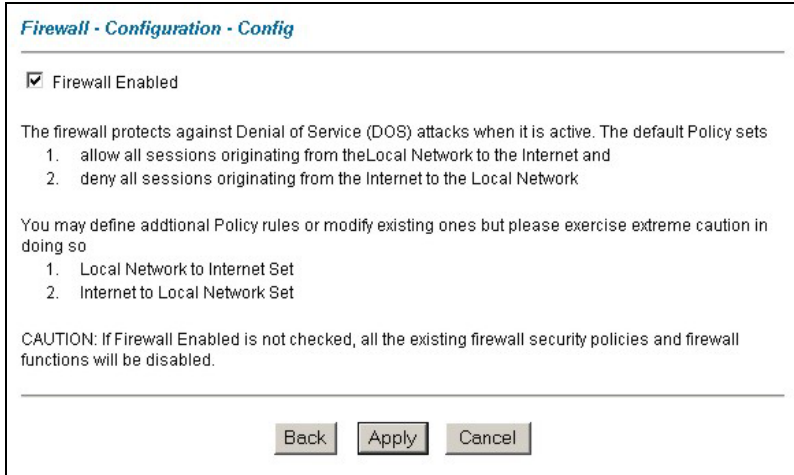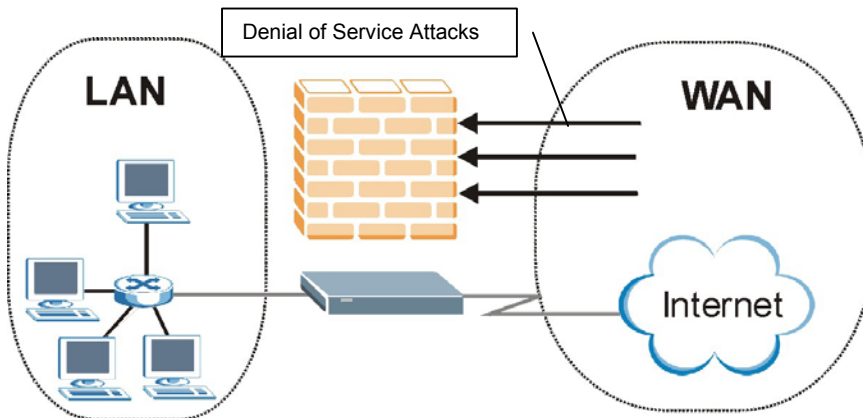The following figure illustrates a Prestige firewall application.

Figure 19 Prestige Firewall Application

6.7 Enabling the Firewall

From the main screen, click **Advanced Setup**, **Firewall** and then **Config** to open the
Configuration screen. Enable (or activate) the firewall by selecting the **Enable
Firewall** check box as seen in the following screen.

Firewall - Configuration - Config

☑ Firewall Enabled

The firewall protects against Denial of Service (DOS) attacks when it is active. The default Policy sets
    1.   allow all sessions originating from theLocal Network to the Internet and
    2.   deny all sessions originating from the Internet to the Local Network

You may define addtional Policy rules or modify existing ones but please exercise extreme caution in
doing so
    1.   Local Network to Internet Set
    2.   Internet to Local Network Set

CAUTION: If Firewall Enabled is not checked, all the existing firewall security policies and firewall
functions will be disabled.

Back   Apply   Cancel

Figure 20 Enabling the Firewall

6.8 Procedure for Configuring Firewall Rules

From the main screen, click **Advanced Setup**, **Firewall** and then **Rule Summary** (for
either local network to Internet rules or Internet to local network rules) to open the
Summary screen.

Figure 21 Rule Summary

The following table describes the labels in this screen.

Table 7 Rule Summary

LABEL	DESCRIPTION
The default action for packets not matching following rules	Should packets that do not match the following rules be blocked or forwarded? Make your choice from the drop down list box. Note that "block" means the firewall silently discards the packet.
Default Permit Log	Click this check box to log all matched rules in the Access Control List (ACL) default set.

Table 7 Rule Summary

LABEL	DESCRIPTION
The following read-only fields summarize the rules you have created that apply to traffic traveling in the selected packet direction. The firewall rules that you configure (summarized below) take priority over the general firewall action settings above.	
No.	This is your firewall rule number. The ordering of your rules is important as rules are applied in turn. The **Move** field below allows you to reorder your rules.
Source IP	This drop-down list box displays the source addresses or ranges of addresses to which this firewall rule applies. Please note that a blank source or destination address is equivalent to **Any**.
Destination IP	This drop-down list box displays the destination addresses or ranges of addresses to which this firewall rule applies. Please note that a blank source or destination address is equivalent to **Any**.
Service	This drop-down list box displays the services to which this firewall rule applies. Please note that a blank service type is equivalent to **Any**.
Action	This is the specified action for that rule, either **Block** or **Forward**. Note that **Block** means the firewall silently discards the packet.
Log	This field shows you if a log is created for packets that match the rule (**Match**), don't match the rule (**Not Match**), both (**Both**) or no log is created (**None**).
Rules Reorder	You may reorder your rules using this function. Select the rule you want to move. The ordering of your rules is important as rules are applied in turn.
To Rule Number	Select the number you want to move the rule to.
Move	Click **Move** to move the rule.

Follow these directions to create a new rule.

Step 1.   In the **Summary** screen, click a rule's index number. The **Edit Rule** screen opens.

Step 2.   In the **Available Services** text box, select the services you want. Customize ports for services not predefined by the Prestige by clicking the **Edit**

Available Service buttons. For a comprehensive list of port numbers and services, visit the IANA (Internet Assigned Number Authority) web site.

Step 3.   Configure the **Source Address** and **Destination Address** for the rule.

Figure 22 Creating/Editing A Firewall Rule

The following table describes the labels in this screen.

Table 8 Creating/Editing A Firewall Rule

LABEL	DESCRIPTION
Source Address	Click **SrcAdd** to add a new address, **SrcEdit** to edit an existing one or **SrcDelete** to delete one. Please see the next section for more information on adding and editing source addresses.
Destination Address	Click **DestAdd** to add a new address, **DestEdit** to edit an existing one or **DestDelete** to delete one. Please see the following section on adding and editing destination addresses.
Services	
Available/ Selected Services	Highlight a service from the **Available Services** box on the left, then click **>>** to add it to the **Selected Services** box on the right. To remove a service, highlight it in the **Selected Services** box on the right, then click **<<**.
Edit Available Service	Click this button to go to the list of available services.
Action for Matched Packets	Should packets that match this rule be blocked or forwarded? Make your choice from the drop down list box. Note that **Block** means the firewall silently discards the packet.
Log	This field determines if a log is created for packets that match the rule, don't match the rule, both or no log is created.
Alert	Check the **Alert** check box to determine that this rule generates an alert when the rule is matched.
Delete	Click **Delete** to remove this rule.

6.9 Configuring Source and Destination Addresses

To add a new source or destination address, click **SrcAdd** or **DestAdd** from the previous screen. To edit an existing source or destination address, select it from the box and click **SrcEdit** or **DestEdit** from the previous screen**.** Either action displays the following screen.

Figure 23 Adding/Editing Source and Destination Addresses

The following table describes the labels in this screen.

Table 9 Adding/Editing Source and Destination Addresses

LABEL	DESCRIPTION
Address Type	Do you want your rule to apply to packets with a particular (single) IP address, a range of IP addresses (e.g., 192.168.1.10 to 192.169.1.50), a subnet or any IP address? Select an option from the drop down list box
Start IP Address	Enter the single IP address or the starting IP address in a range here.
End IP Address	Enter the ending IP address in a range here.
Subnet Mask	Enter the subnet mask here, if applicable.

7 Troubleshooting

Table 10 Troubleshooting

PROBLEM	CORRECTIVE ACTION
None of the LEDs turn on when you turn on the Prestige.	Make sure that you have the correct power adaptor connected to the Prestige and plugged in to an appropriate power source. Check all cable connections. If the LEDs still do not turn on, you may have a hardware problem. In this case, you should contact your local vendor.
Cannot access the Prestige from the LAN.	Check the cable connection between the Prestige and your computer or hub. Refer to the *Rear Panel Connections* section for details. Ping the Prestige from a LAN computer. Make sure your computer Ethernet adapter is installed and functioning properly.
Cannot ping any computer on the LAN.	If the LAN LEDs are all off, check the cable connections between the Prestige and your LAN computers. Verify that the IP address, subnet mask of the Prestige and the LAN computers are in the same IP address range.
Cannot ping any computer on the WLAN	Make sure the **WLAN** LED is on. Make sure the wireless card on the wireless client is working properly. Check that both the Prestige and wireless client(s) are using the same ESSID, channel and WEP keys (if WEP encryption is activated).
Cannot get a WAN IP address from the ISP.	The WAN IP is provided after the ISP verifies the MAC address, host name or user ID. Find out the verification method used by your ISP and configure the corresponding fields. If the ISP checks the user ID, check your service type, user name, and password in the **WAN Setup** screen.
Cannot access the Internet.	Verify the Internet connection settings in the **WAN Setup** screen. Make sure you entered the correct user name and password. For wireless clients, check that both the Prestige and wireless client(s) are using the same ESSID, channel and WEP keys (if WEP encryption is activated).